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NATIONAL SAFETY COUNCIL

Position/Policy Statement

~~Nicotine Delivery Systems (ENDS)~~ Electronic Cigarettes and Vaping Products

POSITION / POLICY

The National Safety Council supports policies aimed at reducing use of electronic cigarettes (e-cigarettes) and vaping products ~~Nicotine Delivery Systems (ENDS) use~~, with a particular emphasis on ~~policies that restrict e-cigarette use by teenagers~~. children, adolescents and young adults.

{Recommend superseding of Justification, Background (up to Policies), and Conclusion Sections, not reproduced herein, with the following Background and References. The format of referencing may be changed for stylistic purposes. Recommend that NSC policies be reviewed alongside AHA positions on product regulations listed in Table 2 of Rose et al. (2023).}

Comment

Electronic cigarettes (e-cigarettes, ECs, vapes) are battery-powered devices that heat a liquid (e-liquid) to create an aerosol for direct inhalation by the user. A subset of these products using nicotine may be referred to as Electronic Nicotine Delivery Systems (ENDS).

Liquid consumables for these products are diverse and may contain a drug (e.g., nicotine, tetrahydrocannabinol) in a solvent (e.g., propylene glycol, glycerol) with ingredients for other function (e.g., flavoring: vanillin, ethyl maltol). Functions of other ingredients may also include: "carriers, casings, fibres, humectants, solvents, processing aids, smoke odor modifiers, water-wetting agents and viscosity modifiers". [Krüsemann, 2021, p.187]

Many ingredients of e-liquids are on the FDA's Generally Recognized as Safe (GRAS) list. However, many on the GRAS list were intended as food additives with a condition that "the substance is generally recognized, among qualified experts, as having been adequately shown to be safe under the conditions of its intended use". [U.S. FDA] Numerous ingredients in e-cigarettes and vaping products have not been tested for inhalation toxicology. [Wold, p.e71]

E-cigarette or vaping use-associated lung injury (EVALI) was first recognized in August of 2019 and was stopped reported by the CDC on February 18 of 2020 [Rose, 2023, pp.710-711]. Those acutely injured develop hypoxemia requiring supplemental oxygen and have signs of systemic inflammation. [ibid., p.711] Three symptom areas commonly occur in EVALI cases:

“prominent gastrointestinal, general systemic (fever and fatigue), and respiratory symptoms”. [Rose, p.711] Of 2,668 hospitalized EVALI cases reported to the CDC in which the median patient age was 24 years, 82% reported using a THC-containing e-cigarette or vaping product, and 57% reported a nicotine one. [Krishnasamy, 2020] The U.S. Department of Defense prohibited sales of e-cigarette and vaporizer products at Army, Air Force and Navy locations in October of 2019 in response to the emergence of EVALI. [Bendel, 2022, e1009-1010; Jowers, 2019] Vitamin E acetate was strongly linked to the EVALI outbreak since it was detected in products tested by the FDA and state laboratories and in lung fluid from patients tested by the CDC. [Krishnasamy, 2020; Ellington, 2020]

Adverse health effects from e-cigarettes and vaping products are influenced by several factors such as the composition of the e-liquid, physical device characteristics, chemical changes and additions e.g. metals) from heating, and health of the user. [Gordon, 2022] User behaviors vary greatly in exposure frequency, inhalation volume, and particle deposition. [Gordon, 2022]

“The evolving e-cigarette landscape continues to impede timely toxicological studies and hinder progress made toward our understanding of the long-term health consequence of e-cigarettes.” [Gordon, p.301] Furthermore, the performance of these products may be altered by the user that provides another domain of variability in exposure. In a study of 168 YouTube videos depicting user modifications, 15% of comments involved experiences, 12% indicated modification knowledge, 8% with newly learned knowledge, 7% with intentions to modify, and 5% mentioned health risks and safety. [Li, 2022]

“Currently, the only required warning on e-cigarette packaging is: “WARNING: This product contains nicotine. Nicotine is an addictive chemical.”” [Avery, 2023, p.1] ... Five types of experimental warning statements were investigated in focus groups in the U.S. that involved warnings on toxic ingredients, health effects, cognitive development, addiction, and unknown risks. Warnings to youth on impact to their future cognitive development, memory, and mood “might offer the strongest potential for deterring” use. [ibid., p.19] Warnings on toxic ingredients and negative health effects have potential to discourage adults transitioning from combustible cigarettes, and were less effective for youth. [Avery, 2023]

Studies on health effects of e-cigarettes and vaping product use are primarily focused on the acute effects. The long-term consequences of e-cigarette and vaping product use will take many years to understand as evidence of e-cigarette and vaping product toxicity continues to unfold. [Gordon, 2022] A figure on comparison of some factors influencing toxicity of cigarettes and e-cigarettes as nicotine-delivery systems is reproduced below. [Gordon, p.313]

One recent umbrella review on e-cigarettes and health outcomes reported:

> "E-cigarettes can be harmful to health, particularly for non-smokers and children, adolescents, and young adults." [Banks, 2023, p.267] ... "There is conclusive evidence linking e-cigarette use with poisoning, immediate inhalation toxicity (including seizures), and e-cigarette or vaping product use-associated lung injury ..., as well as for malfunctioning devices causing injuries and burns." [ibid., p.267] ... "Better quality evidence is needed regarding the health impact of e-cigarette use." [ibid.] "Evidence regarding effects on other clinical outcomes, including cardiovascular disease, cancer, development, and mental and reproductive health, is insufficient or unavailable." [ibid.]

Another recent umbrella review on toxicity of e-cigarettes found "evidence is still too limited to draw definite conclusions about the potential human health effects of ECs", however "there was an agreement among several reviews that the evidence of negative impact on health warrants stronger regulation of ECs". [Travis, 2023, p.9] The AHA recently succinctly stated on e-cigarettes and vaping that "We do not yet know the long-term health effects of these products." [Rose, p.e11]

The Executive Committee of the AHA has approved position on ten issues related to vaping product regulation [Rose, p.e16] which include:

"The removal of all characterizing flavors";

"Smoke-free laws should explicitly include aerosolized, alternative nicotine delivery systems, and combustible products in comprehensive smoke-free air laws to ensure that there is no passive exposure to any harmful constituent byproducts".

Policies

The National Safety Council supports a comprehensive and multi-faceted approach to addressing the public health concerns posed by ~~Electronic Nicotine Delivery Systems (ENDS)~~ e-cigarettes and vaping. Specifically NSC advocates for policies that address three main objectives: restricting youth access to ~~ENDS~~ e-cigarettes and vaping products, eliminating disparities between ~~ENDS~~ e-cigarettes and vaping products and tobacco regulations, and increasing public awareness of health risks.

Restricting Youth Access

Use of ~~ENDS~~ e-cigarettes and vaping products has become particularly prevalent among teenagers and young adults, populations which are particularly vulnerable to nicotine dependence and other adverse health impacts. Consequently, the National Safety Council supports policies aimed at restricting youth access to ~~ENDS~~ e-cigarettes and vaping products, including:

- **Increased Minimum Age for ~~ENDS~~ E-cigarettes and Vaping Product Sales.** The National Safety Council supports increasing the minimum age for ~~ENDS~~ e-cigarettes and vaping products sales to 21, to limit the number of adolescent users and to keep ~~ENDS~~ e-cigarettes and vaping products out of the hands of younger users who are more vulnerable to forming addiction or dependence. This policy mirrors NSC support for an increased minimum age for sale of tobacco products to 21.

- **Enhanced Age Verification.** The National Safety Council strongly opposes the use of ~~ENDS~~ e-cigarettes and vaping products by minors. Vendors and manufacturers must be subject to stringent oversight, and prevented from marketing or selling ~~e-cigarettes and related~~ e-cigarettes and vaping products to minors. This includes enhanced age verification measures by both online and brick and mortar retailers.

- **Redesigned Packaging and Advertising to Limit Youth Appeal.** Studies have demonstrated that ~~ENDS~~ e-cigarettes and vaping product advertising has saturated underage markets, contributing to underage use of ~~ENDS~~ e-cigarettes and vaping products. The National Safety Council encourages ~~ENDS~~ e-cigarettes and vaping product manufacturers to redesign product packaging and advertising to limit youth appeal and exposure, and encourages government regulatory agencies to exercise regulatory oversight powers to ensure compliance. NSC also supports the use of child-resistant packaging for ~~ENDS~~ e-cigarettes and vaping product cartridges and other products.

- **Restrictions on the Use of Flavored ~~ENDS~~ E-cigarettes and Vaping Product Cartridges.** As with packaging and advertising, the proliferation of flavored ~~ENDS~~ e-cigarettes and vaping products cartridges has also been associated with widespread use by underage adolescents. ~~One study found that one-third of middle and high school students using ENDS e-cigarettes and vaping products identified flavoring as a major selling point.23~~ NSC supports additional limitations on the sale of ~~ENDS~~ e-cigarettes and vaping product flavored cartridges ~~such as fruit and candy flavors,~~ which are particularly appealing to ~~underage~~ young users.

Eliminating Disparities between ~~ENDS~~ E-cigarettes, Vaping Products and Tobacco Regulations

- **Expand Smoke-Free Policies to Include ~~ENDS~~ E-cigarettes and Vaping Products.** The proliferation of smokefree policies in public buildings and parks, restaurants, shops, workplaces, and other venues has been instrumental in reducing consumption and mitigating the risks posed by exposure to second-hand smoke. The National Safety Council encourages policymakers to expand smoke-free policies to include a prohibition of the use of ~~ENDS~~ e-cigarettes and vaping products in indoor and outdoor spaces.

- **Extend Cigarette Taxes to ~~ENDS~~ E-cigarettes and Vaping Products.** Federal, state, and local taxes on cigarettes and other tobacco products have been demonstrated to be effective at reducing consumption and preventing the initiation of use. Moreover, they can be a valuable source of revenue that can be used to fund important public health and cessation programs. The National Safety Council supports extending these taxes to cover ~~ENDS~~ e-cigarettes and vaping products in addition to tobacco products.

Increasing Public Awareness of Health Risks

- ~~**Guarantee**~~ **Increased Funding for Research.** In contrast to combustible cigarettes and tobacco products, for which decades of research exists, ~~ENDS~~ e-cigarettes and vaping products are relatively new ~~products~~ with ~~very~~ little existing research into the potential health effects of repeated use. The National Safety Council supports increased research into the health effects of these products, so that potential risks are better understood, and so that future policy can be better informed by science.

- **Mandate Increased Transparency from ~~ENDS~~ E-cigarettes and Vaping Product ~~manufacturers~~ Manufacturers.** Manufacturers are not currently required to report the ingredients used in their products~~, leading to significant misinformation~~. ~~For example, nearly 70% of teens surveyed believed flavoring was the only ingredient in their e-cigarettes; only 13% knew that e-cigarettes contained nicotine.24~~ Manufacturers should be required to ~~be more transparent about~~ list the ingredients and chemicals used in their products, including clear labeling on product packaging. E-cigarettes and vaping products should undergo accurate representative analytical testing to justify consumable product preparation and composition reporting.

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This position statement reflects the opinions of the National Safety Council but not necessarily those of each member organization.

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